Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

Listing of Claims:

1. (currently amended) A computerized method for updating a version of an object having a property, the method comprising:

receiving an updated value for the property, wherein the property is a piece of data of the object;

setting an end version field in a first data structure an object table of an object repository or database to a value representing a predecessor version of the object; and

creating a second data structure; object table in the object repository or database to represent a successor version of the object by:

setting a start version field in the second data structure object table to a value representing a new the successor version of the object; and

____setting an end version field in the second data structure object table to a value representing a most recent version of the object; and-

setting a property value field to the updated value for the property, wherein the start version field and the end version field define a range of versions for which the value of the property has the same value.

- 2. (canceled)
- 3. (previously presented) The computerized method of claim 1, wherein the value representing the most recent version is infinity.
- 4. (original) The computerized method of claim 1, wherein the data structure is a row in a database.
- 5. (original) The computerized method of claim 1, wherein the object is a COM (Component Object Model) object.



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

6. (currently amended) A computer-readable medium having a data structure an object table for maintaining multiple versions of an object stored thereon, the medium comprising:

a first field comprising a key for the data structure identifying an object;

a second field comprising a start version identifier;

a third field comprising an end version identifier;

a fourth field comprising a property value identifying at least one piece of data of the object; and

wherein the second and third field define a range of versions of an the object identified by the first field having the property value in the fourth field.

- 7. (original) The computer-readable medium of claim 6, wherein the first field comprises an object identifier and a branch identifier.
- 8. (currently amended) A computer-readable medium having computer-executable instructions for updating a version of an object having a property, the method comprising:

receiving an updated value for the property, wherein the property is a piece of data of the object;

setting an end version field in a first data structure object table of an object repository or database to a value representing a predecessor version of the object; and

creating a second data structure; object table in the object repository or database to represent a successor version of the object by:

____setting a start version field in the second data structure object table to a value representing a new the successor version of the object; and



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

setting an end version field in the second data structure object table to a value representing a most recent version of the object; and-

setting a property value field to the updated value for the property, wherein the start version field and the end version field define a range of versions for which the value of the property has the same value.

- 9. (canceled)
- 10. (original) The computer-readable medium of claim 8, wherein the value representing the most recent value is infinity.
 - 11. (canceled)
- 12. (original) The computer-readable medium of claim 8, wherein the object is a COM (Component Object Model) object.
- 13. (currently amended) A method for propagating a relationship of a predecessor object to a successor object, said relationship having an origin object and a destination object, the method comprising:

reading a propagation flag on the relationship; and

if the propagation flag is set then performing the tasks of:

determining if a previously added version of the destination object has been added;

upon determining the previously added version has been added:

setting an end version field in a first data structure an object table of an object repository or database with a value representing a predecessor version of the object;

creating a second data structure; object table in the object repository or database to represent a successor version of the object by;



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

setting a start version in the second data structure object table to a value representing the successor version;

setting an end version field in the second object table to a value representing a most recent version of the object; and

setting a property value field to the updated value for the property, wherein the start version field and the end version field define a range of versions for which the value of the property has the same value.

- 14. (previously presented) The method of claim 13, wherein the predecessor object and the successor object are COM objects.
- 15. (currently amended) A computer-readable medium having computer executable instructions for performing a method for propagating a relationship of a predecessor object to a successor object, said relationship having an origin object and a destination object, the method comprising:

reading a propagation flag on the relationship; and

if the propagation flag is set then performing the tasks of:

determining if a previously added version of the destination object has been added;

upon determining the previously added version has been added:

setting an end version field in a first data structure an object table of an object repository or database with a value representing a predecessor version of the object;

repository or database to represent a successor version of the object; and



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

setting a start version in the second data structure object table to a value representing the successor version;

setting an end version field in the second object table to a value representing a most recent version of the object; and

setting a property value field to the updated value for the property, wherein the start version field and the end version field define a range of versions for which the value of the property has the same value.

- 16. (original) The computer-readable medium of claim 15, wherein the predecessor object and the successor object are COM objects.
 - 17 37. (canceled).
- 38. (currently amended) The computer-readable medium of claim 6, wherein objects and properties are only copied to the <u>object table data structure</u> when a property value of a respective object changes.
- 39. (previously presented) The computer-readable medium of claim 6, wherein the first field includes an object identifier, a branch identifier, and a start-version identifier.
 - 40 41. (canceled)
- 42. (currently amended) The computer-readable medium of claim <u>39</u>40, wherein the branch identifier indicates a branch within a particular version of the object, the branch being formed when a previously added successor object is created from a predecessor object having at least one other successor object.
 - 43. (canceled)
- 44. (previously presented) The method of claim 13, wherein, if the propagation flag is set, the relationship is not copied to the previously added version.



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

45. (previously presented) The method of claim 13, wherein reading a propagation flag on the relationship involves reading a relationship type field of a relationship table, the relationship table including an object identifier, a branch identifier, a start-version identifier, and an end-version identifier.

46. (previously presented) The method of claim 45, wherein, when creating the previously added version, if the previously added version and a predecessor version are on the same branch, as indicated by the branch identifier, and the end-version identifier is infinity, the relationship is copied without updating the relationship table.

47. (previously presented) The method of claim 45, wherein a previously added row of the relationship table is created when a previously added branch is created, as indicated by the branch identifier.

48. (previously presented) The computer-readable medium of claim 15, wherein, if the propagation flag is set, the relationship is not copied to the previously added version.

49. (previously presented) The computer-readable medium of claim 15, wherein reading a propagation flag on the relationship involves reading a relationship type field of a relationship table, the relationship table including an object identifier, a branch identifier, a start-version identifier, and an end-version identifier.

50. (previously presented) The computer-readable medium of claim 49, wherein, when creating a previously added version, if the previously added version and a predecessor version are on the same branch, as indicated by the branch identifier, and the end-version identifier is infinity, a relationship is copied without updating the relationship table.



Application No.: 09/515,037

Office Action Dated: October 1, 2003

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

51. (previously presented) The computer-readable medium of claim 49, wherein a previously added row of the relationship table is created when a previously added branch is created, as indicated by the branch identifier.